SYSTEM FOR STOCK TRADING.

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Abstract

This system enables each stock investor to input trading data into an individual electronic unit 2 which first verifies the investor's identity and trading data; if found to be correct, the unit will transmit the input message to a central device 1 which aids the stock agent in completing various procedures such as credit checking; and then, forwards the complete data by way of the stock agent's authorized input terminal 3 to the matching computer 4 in the stock exchange. Before the stock trading match is made, the investor still has chance to change his/her mind to correct the trading price, number of shares of stock, or even cancel this transaction with this system. The matched data and the investor's required information can also be transmitted back and displayed on the electronic unit. The related information about matched transactions is automatically stored in the electronic unit to facilitate automatic verification by the system. After the delivery procedure is finished, this information is allowed to be erased.

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(54) System for stock trading

(57) This system enables each stock investor to input trading data into an individual electronic unit 2 which first verifies the investor's identity and trading data; if found to be correct, the unit will transmit the input message to a central device 1 which aids the stock agent in completing various procedures such as credit checking; and then, forwards the complete data by way of the stock agent's authorized input terminal 3 to the matching computer 4 in the stock exchange. Before the stock trading match is made, the investor still has chance to change his/her mind to correct the trading price, number of shares of stock, or even cancel this transaction with this system. The matched data and the investor's required information can also be transmitted back and displayed on the electronic unit. The related information about matched transactions is automatically stored in the electronic unit to facilitate automatic verification by the system. After the delivery procedure is finished, this information is allowed to be erased.

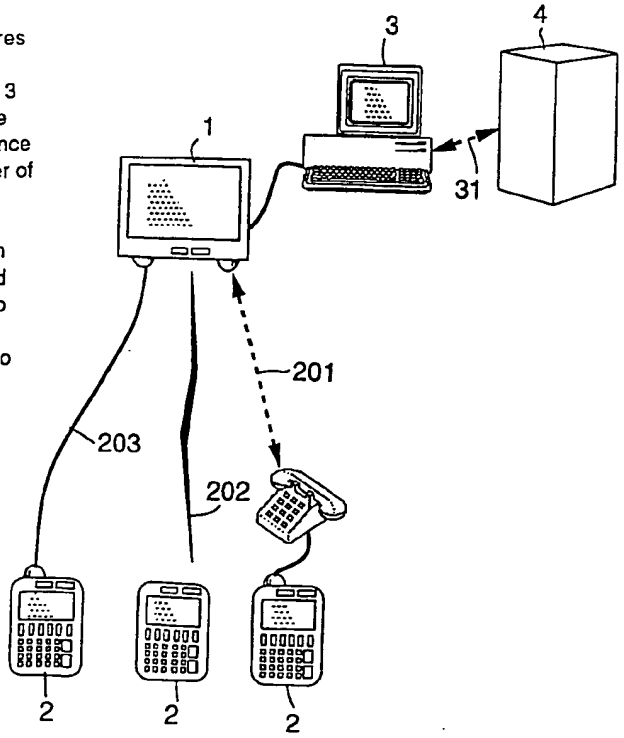

FIG. 1

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AUTO DATA-INPUT AND INFORMATION RECEIVING SYSTEM FOR STOCK TRADING

This invention relates to a transmission system of stock trading information. With this invention, the investors can directly communicate their trading information to a central control equipment through a terminal device. The central control equipment will assist the trader to process and verify the information and then input it to the stock agent's terminal automatically. With this operating system, human intervention can be reduced thereby to improve the operating time, correctness and fairness.

As shown in Fig. 5, it is the present art for stock trading; where when the investor intends to make a stock trade, he/she has to fill up a stock trading authorizing form with information about trading classification (such as regular order, financing or mortgage), name of the stock, account number, number of stock, date, price limit and signature. This form is then handed over to the trader, checked for the investor's trading capacity, and verified the contents to be all correct. It will then pass to the department manager to check, confirm and key in the transaction to a computer, print out with a printer and in the same time transmit to the stock market's computer for a match. After the transaction is matched successfully, this information will be passed back through the reversed path to the trader. An operator will then find out this transaction from the printed list and pick out the authorizing form to complete it by recording down the dealing price and stock number. If the investor changes his mind about the trade before it is completed, he/she has to fill up another form to change the dealing condition or cancel the transaction, and follow the same path as it is made to pass the information to the operator, and

his/her department manager checks and confirms it with no error. An operator will then find the original form and its trading number, key in the number and call back the transaction from the match computer. After verifying that the match has not happened yet, the new change request can be processed. This operating procedure is very complicated and tedious. A great deal of man power and processing time will be needed. And because of the time delay, trading result may be different which causes unnecessary loss for the trader and the investor. (For example, some cancel cases may be intentionally delayed by the operators whom let the trade happen to earn the service charge.) Or, sometimes because of the operator's error in handling the trade or intentional favor of a certain investor, the trade fairness will be hindered and an unnecessary argument may induce.

Besides, with the present art, if the investor wants to know the results of the trade, he/she has to go to the terminal to check by input of a magnetic card. Before the transaction is complete, the investor has to keep checking in front of those terminals which causes long line forms at the terminals. The investor is not able to know whether he/she has enough capacities to do more transactions and the trader is not able to take more transactions. It brings loss to both sides.

With the present art, big investors or invest groups in the stock market can manipulate the trade by releasing rumors to affect investor's confidence. Thereby, the market fluctuates rapidly; however, the major stock holders or invest groups will be able to earn nicely by taking advantage of the price difference. As a result, it is very important to let the individual investor to know the trading information in time to prevent the above mentioned situation from happening. Other deficiencies of the present art include that it is very crowded within a trading place. The operator is difficult to find the investor.

Page system is not practical in this case. The problem of lacking communication also needs improvement.

To respond to the above mentioned problems with the present stock trading method, this invention brings out a revolutionary automatic information transmission system which will provide a simplified trade authorizing procedure, automatically check and verify trade information and allow individual investor to have correct trading information to improve the trading efficiency, reduce trader's operating cost and make the trade more fair.

This invention will provide a method and device which allow the investor to input his/her trade request directly to the trader's authorizing terminal with automatic checking and confirming procedure.

Another purpose of this invention is to provide a method and device which can automatically recognise investor's identity and check investor's information.

More, this invention will provide a method and device which will offer the investor correct and timely information about investment and trading and also can page the individual investor.

In the following, detailed explanation of this invention will be presented with clarifying figures.

FIG. 1 is a schematic diagram of the invented stock trading system illustrating the information flow path.

FIG. 2 is a block diagram showing this invention system.

FIG. 3 is an embodiment of this invention system.

FIG. 4 is an outside look of the embodiment of an electronic unit.

FIG. 5 is a comparison of operating flow of this invention and the present art.

FIG. 1 shows this invention system wherein comprises at least one central device 1 set up in the stock agent's office which communicates with a number of units 2 supplied to each individual investor. Each transaction will be sent to the central device 1 in the stock agent's office via telephone line 201, wiring 203 or cordless transmission 202 (infrared rays, laser or wireless transmitter). All the transactions, once certified, are transmitted to the stock agent's authorized input terminal 3 through the existed telecommunication network 31, and then to the matching computer 4 in the stock exchange. The matched transactions and the investor's required information can also be transmitted back and displayed on each electronic unit 2.

FIG. 2 shows the composition of the central device 1 with an electronic unit 2 of this invention system. A microcomputer 21 in the unit 2 contains an unshown checking module which, before this unit 2 is used, will ask the investor to input letters, numbers or speech as secret codes. These codes will then be compared with preset secret codes stored in a recorder 22. These codes are set as the investor initially opened account with the stock agent to use this unit. If the user is not certified, that is, the secret codes in the input section 23 is different from the preset ones, a warning device 24 in the unit 2 will send out warning signals such as light or sound to the central device 2 through a transmitter 26 to help the owner find it. Once the investor's identity is certified, the device 2 accepts the investor's input command, and also notifies the investor other input and selection instructions through a display 25. The microcomputer 21 also consists of a calculating module which does the calculation and provides the user with information about the his/her own generated receipts and payments, gross amount of loss/gain of total transactions of that day as well as each expected transaction as reference. As the investor

completes keying in trading information, it will be checked by a recorder 22 (such as input form, trade regulations, and acceptable upper limits of trade for the user) through the microcomputer 21. As the transaction is checked without error, it will be stored in a register 27. The user can send a message to forward the transaction to the central device 1 through the transmitter 26 via any transmitting way shown in FIG. 1.

The central device 1 also consists of a signal receiver 18 which receives information from the transmitter 26 and stores it into a register 17 through a computer 11. The computer 11 contains an unshown checking module which will check and filter each authorized trading transaction to be legal and acceptable or not based on a prestored recorder 12 with respect to the investor's trading limits (The stock agent investigates the investor's filled financial status, such as real estate, banking savings, and credit, the trader will judge them and decide to accept it or not, and the computer 11 will then automatically calculate the investor's invested trading amount of that day.), and the investor's identity (Is he/she a regular customer? Does the unit 2 get lost?); each trade authorized content will be displayed on the display 15 right away which enables the trader to certify and process thereby. If the identity is not correct, the location of the user will be displayed on the display 15 of the central device 1 which assists related persons to trace the abnormal occurrence. If the trade amount is beyond the acceptable upper limits, the trader can judge it and decide to accept it or not, and an instruction of acceptance or rejection will be sent out by an input section 13. And, if necessary, an instruction to page the investor will be input and sent out over a transmitter 16 to the display 25 of the unit 2. The investor, noticed by light or vibration, will go and talk with the trader to make himself/herself understood. Once the trade information

is certified, it will be sent to the stock agent's authorized input terminal 3 through an output interface 141 based on first in first out service policy (to assure the fairness), and then to the computer 4 of the stock exchange for matching operation. Each step of operating information in the central device 1 will notify the investor and be sent to the unit 2 through the transmitter 16. The matched transaction in the stock exchange will be transmitted back to the computer 3 of the stock agent through network. (This is a prior art which is not necessary to be described hereinafter.) Through an input interface 142, the trading information (such as investor's name, account number, trade time, price and number of trade stock) will be input to the computer 11 which enables the corresponding information stored in the register 17 to be retrieved and transferred to the transaction recorder 19, and then notify the investor and send to the unit 2 through the transmitter 16.

The unit 2 will record the trading information in the trade recorder 29. It can also display it on display 25 for checking if commanded by user. If necessary, hardcopied output or transferred information is also available. However, the user of this recorded information can not change or delete stored data. Only after the investor has delivered the trade by connecting the unit 2 with the central device 1 to automatically verify information in each device match, and process the transfer, and then the central device 1 will delete the corresponding information in the transaction recorder 29 or change the information file to be erasable.

The information in recorder 22 is also protected from change of users. Each time when the unit 2 and central device 1 are connected to process information, the central device 1 can update information in the recorder 22 of the unit 2 referring to the information recorded in the recorder 12.

The investor, after having authorized the trade, if changes his/her mind owing to the stock market's latest situation, can input change or cancel command to the unit 2 and let display 25 display all incomplete transaction (retrieved from register 27) to facilitate to change trading price, number or even cancel the trade. (the microcomputer 21 can supply the related formula to select.) After the identity is certified , the investor can command to communicate all the updated transactions to the central device 1. The central device 1, as received the updated ones, will then retrieve the original transactions from the register 17 to cancel or replace with newly updated ones, and pass this information through the authorizing input terminal 3 to the computer 4 in the stock exchange to process.

The central device 1 also connects to an external information source 5 (supplied by market, traders and others) to transmit information to unit 2 and displays all related information to the investors. For example, the highest offering price for some or all trading stocks, the lowest reporting price, the latest trading price, number of trade and stock number to queue in/out, price varying curve for individual stock or group stock curve (like cement stock, plastic stock), whole market trend, queue in/out stock index with time and trading stock company's sales report, officers movement or international market trend and other related political and economic news. All the information can be displayed on display 25 by user's command. (The display can have one or two monitors to show information and trade at the same time.)

As to the communication between unit 2 and central device 1, it can use wiring or wireless application or any other present arts. FIG. 3 is an embodiment of the system construction showing a wiring communication applied in this invention. The central unit 1 as shown in the figure contains a

computer 11 which consists of a central process unit 110, a display 15, an input section 13; and a software module 111 to operate checking, recording, displaying, page editing, coding/decoding, and information retrieving procedure; a memory to store information; an input/output interface in connection with stock agent's authorized input terminal 3; an input interface 115 in connection with an information source 5; an information distributor 116 connecting with a number of registers 117; and the registers 117 replaceably connecting with respective units 2 through respective input/output interfaces 118. The features of above mentioned construction are: each register 117 is a junction between central device 1 and respective units 2 -- the unit 2 sends out identifying codes, trading and changing information; the central device 1 sends out trade report and searching information, and also provides the unit 2 with checking information and page information. (The operation of unit 2 will be simplified by the edition of computer 11.)

FIG. 4 is an outside look of embodiment of the unit 2. The outside construction of the embodiment has two folding parts 291 and 292, wherein each part has a liquid crystal display 251 and 252 which respectively display the stock market information 50 and the investor's trade information 200; the outside has an input port 210 connecting to the central device 1 (unshown); an on/off key turns the device on and off; a pilot lamp 253 notifies page information and makes response through a response key 232 and also displays the information; a set of information display keys 231 operate display of information; and a set of trade function keys 233, numeric keys 234 and arrow keys 235 operate various functions of trade information such as input, transfer, delivery and inquiry. As to the design of function keys and displays, they are prior arts and need not to be described in detail.

FIG. 5 is a comparison of operating flow of this invention and the present art. The present operating flow requires the investor to fill in trade authorizing forms, line up to deliver the forms, and inquire information with magnetic card which can be directly operated by the electronic unit of this invention; the registered number and authorized record can be automatically operated by the central device of this invention; and the input authorization of the present flow can be transmitted to the computer system of stock exchange for matching operation.

While preferred embodiments of the invention have been described in detail, it is particularly understood that the invention is not limited thereto or thereby, and it is evident to those skilled in the art that various changes and modifications may be therein without departing from the invention.

CLAIMS

1. An information transmitting system for stock exchange consists of at least a central device set up in the stock agent's office and more than one electronic units owned by the individual investor respectively; wherein the trade information of the investor, inclusive of buy in, sell out, cancel, and transfer, transmits to said central device by means of said electronic unit via telecommunication; said central device, after certifying each transaction to be correct, automatically inputs said information to stock agent's authorised input terminal and then to stock exchange.

2. The information transmitting system of claim 1, wherein said central device transmits information to said electronic unit at least including: various information required while operating said electronic unit, trade record, stock exchange information, and page system.

3. The information transmitting system of claim 1 or 2, wherein said electronic device communicates with said central device via telephone line, cordless, and wiring transmitting methods.

4. The information transmitting system of claim 1 or 2, wherein said electronic unit and said central device consist of at least means to certify the user of said electronic unit to be legal, and display the location of said user if necessary.

5. The information transmitting system of claim 1 or 2, wherein said electronic unit and said central device consist of at least means to assist the investor and stock agent to check each transaction to be correct.

6. The information transmitting system of claim 2, wherein each said electronic unit and said central device respectively consist of means to store each transaction and delivery for the investor and the stock agent to trace.

7. The information transmitting system of claim 1 or 2 wherein said electronic device consists of means for calculation and display to timely calculate and display the investor's single transaction, and gross amount of generated, and would-be generated gain and loss, receipts and payments of that day.

8. An information transmitting system substantially as hereinbefore described with reference to the accompanying drawings.

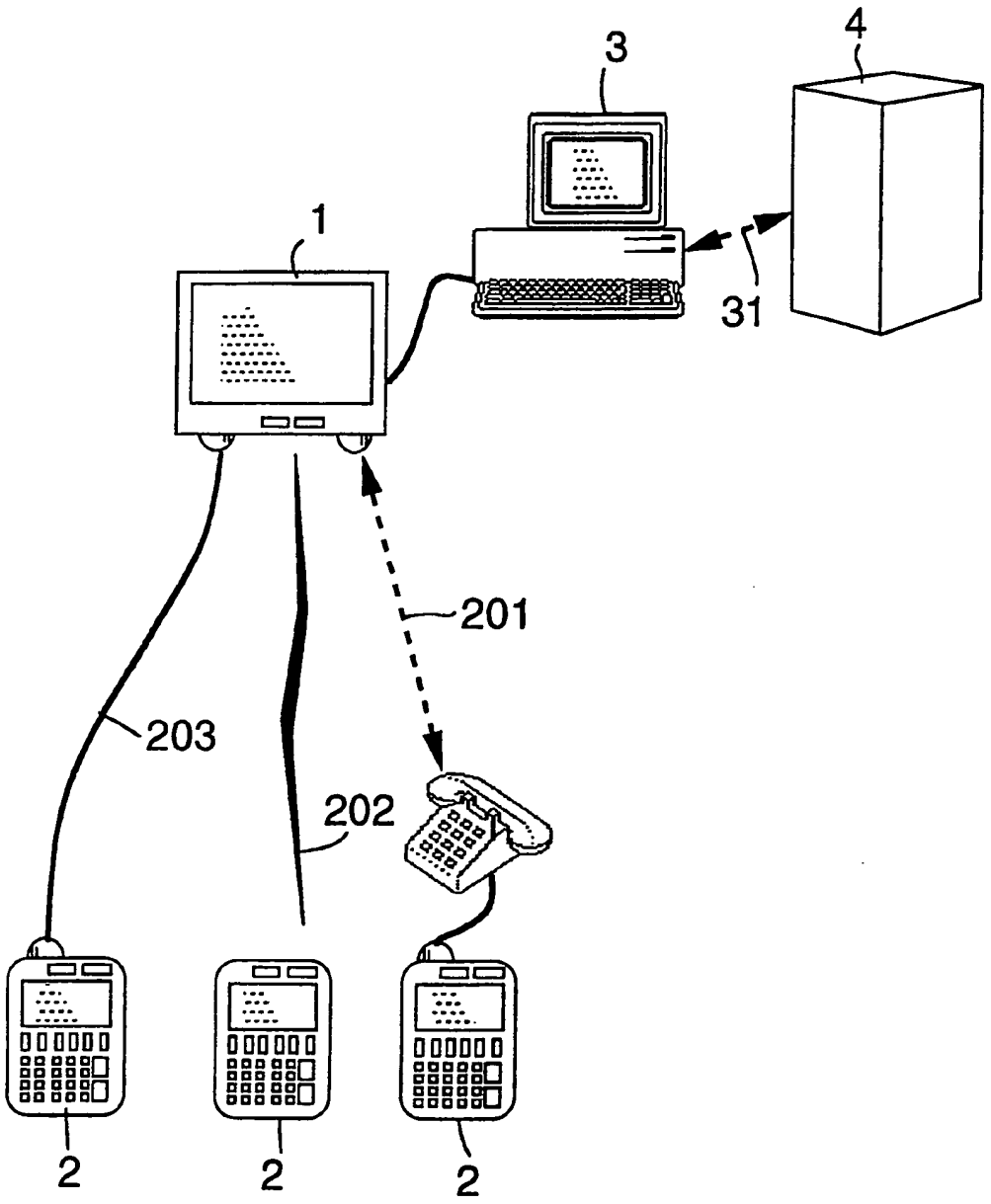


FIG. 1

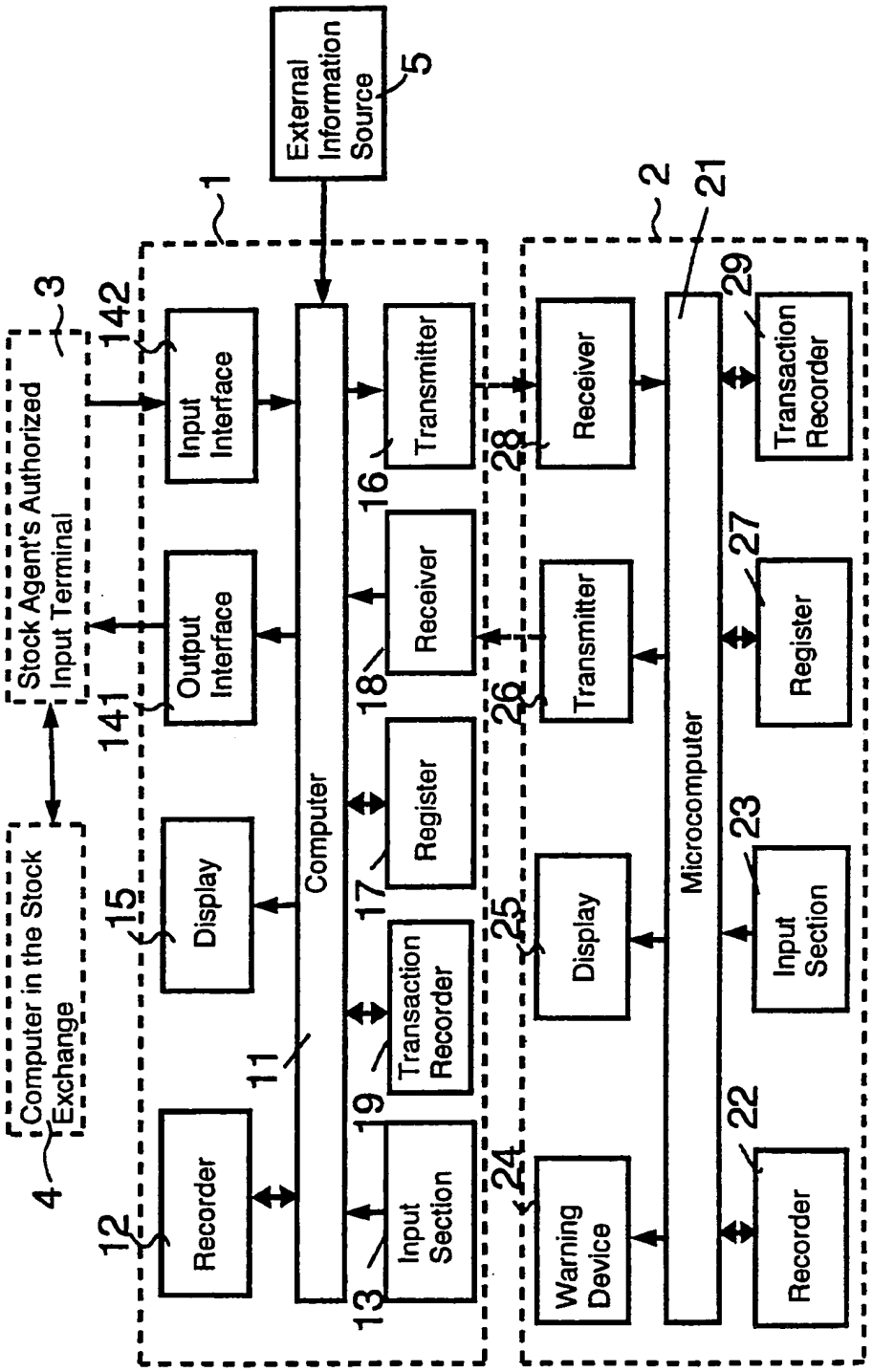

External Information Source
5
1
2
21
3
142
Stock Agent's Authorized Input Terminal
Input Interface
Transmitter
Receiver
Transaction Recorder
29
28
16
Output Interface
Receiver
Transmitter
Register
27
141
18
26
Computer in the Stock Exchange
4
15
Display
Computer
17
Register
Display
Microcomputer
Input Section
23
25
11
Transaction Recorder
19
12
Recorder
Input Section
Warning Device
Recorder
22
24
13

FIG. 2

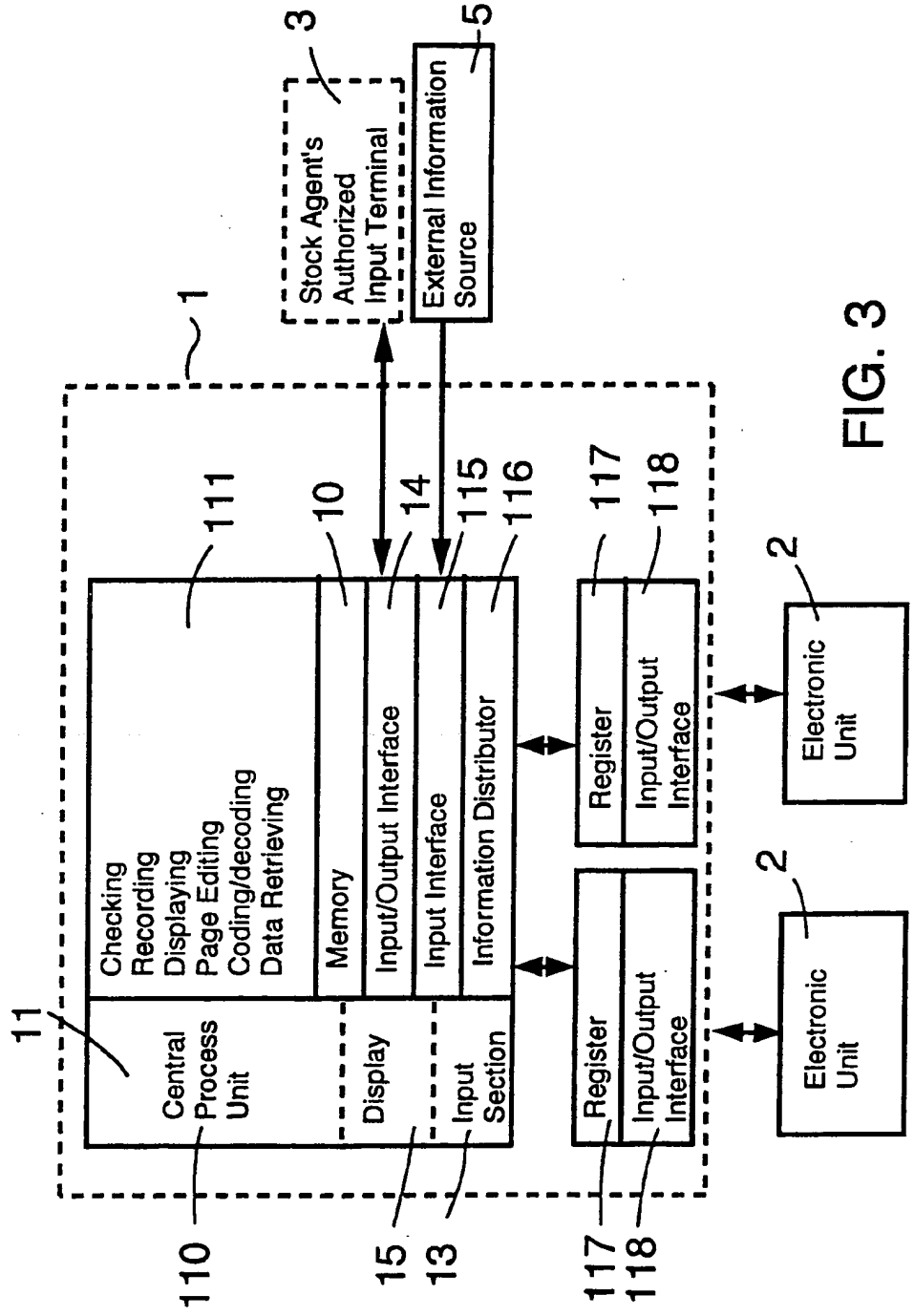
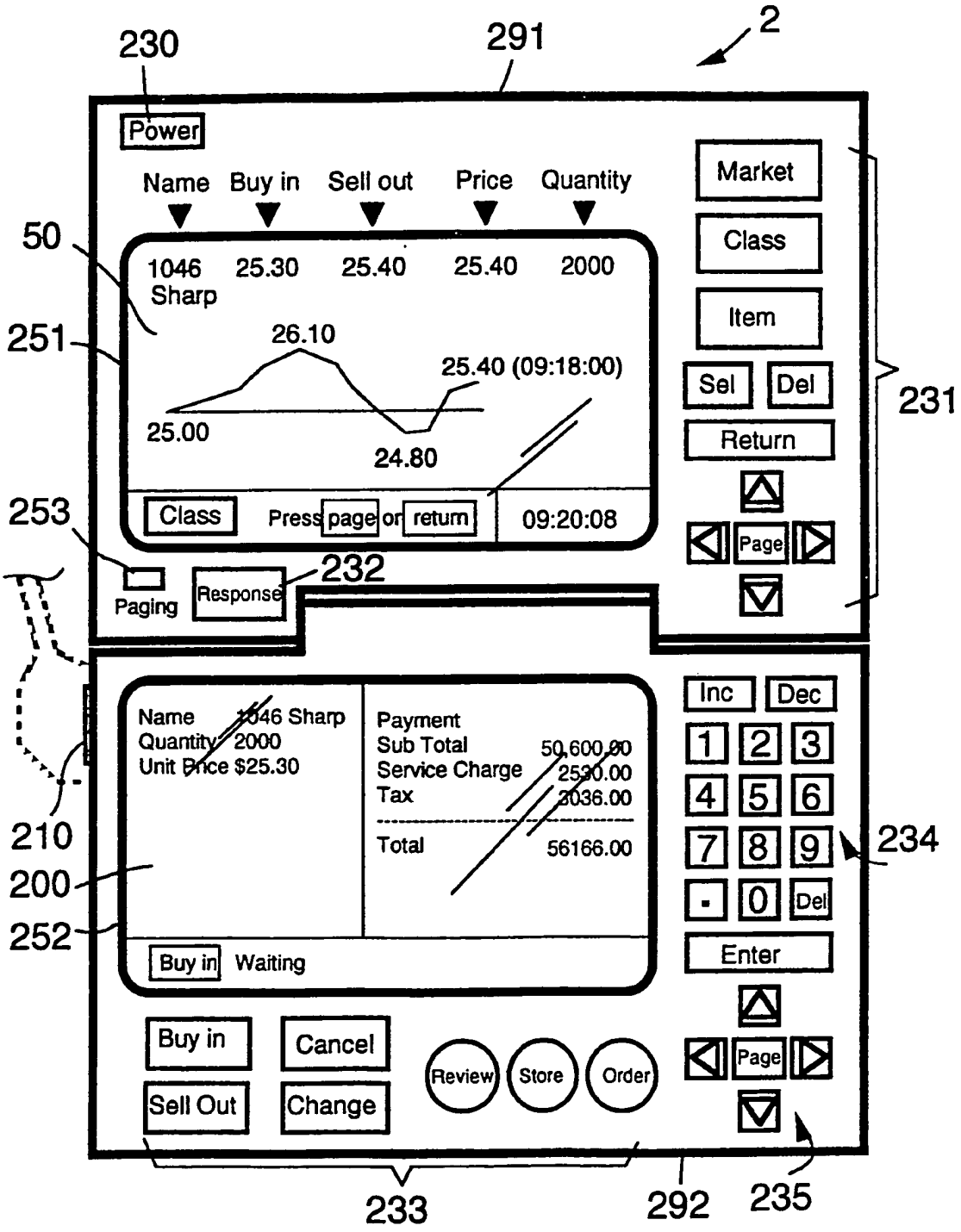

1
3
Stock Agent's Authorized Input Terminal
5
External Information Source
11
Central Process Unit
Checking
Recording
Displaying
Page Editing
Coding/decoding
Data Retrieving
111
Memory
10
Input/Output Interface
14
Input Interface
115
Information Distributor
116
Display
Input Section
Register
117
Input/Output Interface
118
Register
Input/Output Interface
2
Electronic Unit
2
Electronic Unit
110
15
13
117
118

FIG. 3


230
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Power
Name
Buy in
Sell out
Price
Quantity
Market
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Item
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25.40 (09:18:00)
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24.80
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Paging
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Payment
Sub Total 50,600.00
Service Charge 2530.00
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Total 56166.00
Inc
Dec
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2
3
4
5
6
7
8
9
234
0
Del
Enter
210
200
252
Buy in
Waiting
Buy in
Cancel
Sell Out
Change
Review
Store
Order
Page
233
292
235

FIG. 4

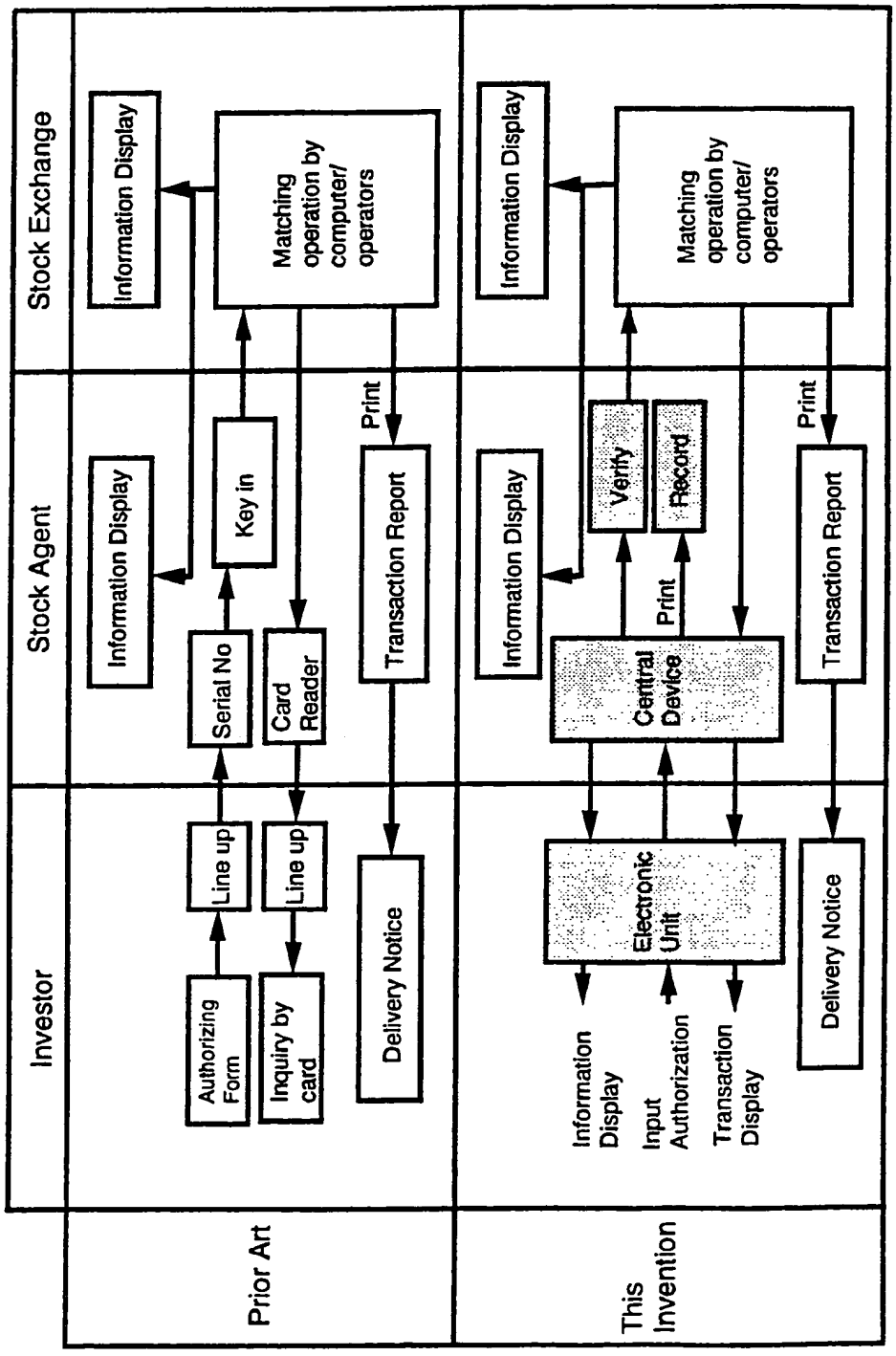
Stock Exchange
Stock Agent
Investor
Information Display
Matching operation by computer/ operators
Information Display
Key in
Serial No
Card Reader
Print
Transaction Report
Line up
Line up
Authorizing Form
Inquiry by card
Delivery Notice
Prior Art
Information Display
Matching operation by computer/ operators
Information Display
Verify
Record
Print
Central Device
Print
Transaction Report
Electronic Unit
Information Display
Input Authorization
Transaction Display
Delivery Notice
This Invention

FIG. 5